

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of Wisconsin Central Ltd. for a Determination of the Adequacy of Warning Devices at Two Grade Crossings of the Wisconsin Central Ltd. Tracks with Riverview Avenue in the Town of Pine River, Lincoln County

On the Commissioner's Own Motion To Determine the Adequacy of Warning Devices at the Grade Crossing of the Wisconsin Central Ltd. Tracks with Center Road in the Town of Pine River, Lincoln County

9164-RX-452

FINDINGS OF FACT AND ORDER

On May 11, 2001, the Wisconsin Central Ltd. (WCL) filed a petition with the Office of the Commissioner of Railroads (OCR) for a determination under §195.28, Stats., of the adequacy of warning devices at the grade crossings of the WCL tracks with North Riverview Avenue (Crossing No. 392 863W / VY 104.92) and South Riverview Avenue (Crossing No. 392 862P / VY 104.44) in the Town of Pine River, Lincoln County.

Upon the request of Mr. Ewald Katke, the Commissioner has also directed his staff to determine the adequacy of warning devices at the crossing of the WCL tracks with Center Road in the Town of Pine River, Lincoln County (Crossing No. 392 868 / VY 107.5).

An OCR investigator inspected the crossings on July 31, 2002. No hearing was held.

Findings of Fact

THE COMMISSIONER FINDS:

The WCL operates 6 through train movements per day over each crossing at a timetable speed of 40 mph. Each crossing consists of one mainline track.

**Center Road                                      Crossing no. 392 868 / VY 107.5**

Center Road is 26' wide in the vicinity of the crossing and intersects the railroad tracks at an angle of between 30° and 40°. The roadway approaches the crossing at a grade of about +2% on each approach. Center Road carried 680 vehicles according to a special August 2002 DOT traffic count at a legal speed limit of 35 mph. The traffic count was not factored for seasonal variation.

A motorist traveling at 35 mph requires a safe stopping distance of 270'. The crossing is visible from more than 270' in each direction. Assuming a train speed of 40 mph, a motorist traveling at 35 mph needs to see a train when it is 380' from the crossing from a point 270' down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 50' northwest quadrant, 55' northeast quadrant, 80' southwest quadrant and 40' southeast quadrant.

The exposure factor at this crossing is 4080. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the

potential conflicts each day at the crossing. The Department of Transportation's Facilities Development Manual (FDM) recommends consideration of automatic flashing lights when the exposure factor at a crossing exceeds 3,000-5,000 in a rural area. The FDM also recommends the consideration of gates when the exposure factor exceeds 20,000.

No train-vehicle accidents have occurred at this crossing since 1973.

Accidents that do occur here will likely be quite serious if a through train is involved due to their 40 mph speed. Train speed is strongly correlated with fatalities in train/vehicle accidents. More specifically, crossings with train speeds of 40 mph and over have a disproportionate number of fatalities. According to Federal Railroad Administration (FRA) statistics, nationally, in 1994 71% of fatalities occurred at crossings with train speeds of 40 mph+, even though only 26% of all crossings had train speeds of 40 mph+.

The crossing is presently protected with reflective crossbucks, stop signs, advance warning signs, and pavement markings. The existing warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety, 12" LED automatic flashing lights with constant warning time circuitry are needed because of the exposure factor and limited sight distance.

In the interim, the order does require the WCL to remove trees and brush from its right-of-way for a distance of 380' in each direction down the track from the crossing and the Town to remove brush and trim trees for 270' in each direction down the highway from the crossing.

The WCL states that it has recovered re-useable signals from the public at-grade crossing of CTH 'Q' with the WCL tracks in the Town of Farmington, Waupaca County (crossing no. 692 489J / CM 226.99). (New signals and gates were ordered at CTH 'Q' in docket 9164-RX-440.) According to the WCL, all of the equipment from CTH 'Q' is re-useable except for the circuitry. The CTH 'Q' signals were installed with federal and state safety funds and are the property of the state of Wisconsin. The signals shall be adapted by installing new constant warning time circuitry and LED lamps.

#### **North Riverview Avenue    Crossing No. 392 863W / VY 104.92**

North Riverview Avenue is about 20' wide in the vicinity of the crossing and intersects the railroad tracks at an angle of about 30° to 40°. The roadway descends to the crossing at a grade of about 4% on the east and is relatively flat on the west. North Riverview Avenue carried 17 ADT according to a special August 2002 DOT traffic count at a legal speed limit of 35 mph.

A motorist traveling at 35 mph requires a safe stopping distance of 270'. The crossing is visible from more than 270' in each direction. Assuming a train speed of 40 mph, a motorist traveling at 35 mph needs to see a train when it is 380' from the crossing from a point 270' down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 35' northwest quadrant, 210' northeast quadrant, 40' southwest quadrant and 15' southeast quadrant. Trees obstruct the view in all quadrants. The sight distance is inadequate in all quadrants.

The exposure factor at the North Riverview Avenue crossing is about 100.

No train-vehicle accidents have occurred at the North Riverview Avenue crossing since 1973. Accidents that do occur here will likely be quite serious if a through train is involved due to their 40

mph speed.

The North Riverview Avenue crossing is presently protected with advance warning signs, reflective crossbucks and stop signs. The existing warning devices are adequate. The order does require the WCL to remove trees and brush from its right-of-way for a distance of 380' in each direction down the track from the crossing and the Town to remove brush and trim trees for 270' in each direction down the highway from the crossing.

### **South Riverview Avenue (Crossing No. 392 862P / VY 104.44)**

South Riverview Avenue is about 17' wide in the vicinity of the crossing and intersects the railroad tracks at an angle of about 30° to 40°. The roadway is flat on the east approach and slightly ascending on the west. South Riverview Avenue carried 32 ADT according to a special August 2002 DOT traffic count at a legal speed limit of 35 mph.

The South Riverview Avenue was originally believed to be a private crossing. However, on March 28, 2001, the Lincoln County Circuit Court entered an order declaring the crossing to be a public crossing.

A motorist traveling at 35 mph requires a safe stopping distance of 270'. The crossing is visible from more than 270' in each direction. Assuming a train speed of 40 mph, a motorist traveling at 35 mph needs to see a train when it is 380' from the crossing from a point 270' down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 15' northwest quadrant, 400' northeast quadrant, 20' southwest quadrant and 70' southeast quadrant. Trees obstruct the view in all quadrants. The sight distance is inadequate in all quadrants.

The exposure factor at the South Riverview Avenue crossing is about 180.

No train-vehicle accidents have occurred at the South Riverview Avenue crossing since 1973. Accidents that do occur here will likely be quite serious if a through train is involved due to their 40 mph speed.

The South Riverview Avenue crossing is presently protected with advance warning signs and reflective crossbucks. The existing warning devices are inadequate. Stop signs are needed to adequately protect and promote public safety. The order also requires the WCL to remove trees and brush from its right-of-way for a distance of 380' in each direction down the track from the crossing and the Town to remove brush and trim trees for 270' in each direction down the highway from the crossing.

*Constant warning time circuitry* adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

*Light emitting diodes (LED)* are a relatively new application for crossing signals. The LED lamps replace the incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

**Source of funding:** The signal materials will be provided by the state of Wisconsin from the CTH 'Q' crossing. The cost to install the signals and any material cost associated with the constant warning time circuitry and LED lamps or other new equipment will be paid by the OCR from federal and state funds.

#### Conclusion on the Issue

##### THE COMMISSIONER CONCLUDES:

1. That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED automatic flashing lights with constant warning time circuitry at the crossing of the tracks of the Wisconsin Central Ltd. with Center Road in the Town of Pine River, Lincoln County.
2. That in order to adequately protect and promote public safety at the crossing of the tracks of Wisconsin Central Ltd. with South Riverview Avenue in the Town of Pine River, Lincoln County, it is necessary to install and maintain stop signs at the crossing.

#### Conclusion of Law

##### THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §195.28 , Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

#### Order

##### THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain automatic 12" LED flashing lights signals and constant warning time circuitry with appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **Center Road** at-grade in the Town of Pine River, Lincoln County by **December 31, 2004** (Crossing No. 392 868 / VY 107.5). The railroad is authorized to re-use the signal materials recovered from the crossing of CTH 'Q' in the Town of Farmington, Waupaca County.
2. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

3. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

4. That the **Wisconsin Central Ltd.** shall clear brush and trees from its right-of-way for 380' down the tracks in each direction from the Center Road, North Riverview Avenue, South Riverview Avenue crossings by **October 31, 2002.**

5. That the **Town of Pine River** shall clear brush and trim trees from its highway right-of-way for 270' down the highway in each direction from the Center Road, North Riverview Avenue, South Riverview Avenue crossings by **October 31, 2002.**

6. That the **Town of Pine River** shall install and maintain stop signs on the crossbucks on each approach to the crossing of the Wisconsin Central Ltd. tracks with South Riverview Avenue at-grade in the Town of Pine River, Lincoln County by **October 31, 2002** (Crossing No. 392 862P / VY 104.44).

7. That the **Wisconsin Central Ltd.** shall bear no part of the cost of the crossing signals installation, except for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly. The **Wisconsin Central Ltd.** shall also bear the cost to clear trees and brush from its right-of-way. The **Town of Pine River** shall bear the cost to clear brush and trim trees on its highway right-of-way.

8. That if the petitioner, railroad or any interested party objects to this order and requests a hearing within 20 days of the date of this order in writing, the Office will hold a public hearing.

9. That jurisdiction is retained.

Dated at Madison, Wisconsin, \_\_\_\_\_.

By the Office of the Commissioner of Railroads.

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Rodney W. Kreunen  
Commissioner of Railroads

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